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EXAMINER

BOUTSIKARIS, LEONIDAS

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 04/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/671,092

Applicant(s)

Athale

Examiner

Leo Boutsikaris

Art Unit

2872



— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Sep 27, 2000

2a) ☐ This action is FINAL.

2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-30 is/are pending in the applica

4a) Of the above, claim(s) _____ is/are withdrawn from considera

5) ☒ Claim(s) 1-17 and 27-30 is/are allowed.

6) ☒ Claim(s) 18-26 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirem

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2

20) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 U.S.C. § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wreede(516) .

Regarding claim 18, Wreede(516) discloses a hologram structure used in display applications (Figs. 1-2) comprising reflection hologram areas 15a and transparent non-hologram areas 15b. The whole structure constitutes a reflective fill factor modulated hologram where the fill factor is determined by the ratio of the hologram and non-hologram region (lines 61-66, col. 1). However, Wreede does not specify the type of hologram being recorded on the substrate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a Fourier transform, far field hologram in Wreede's device, since it has been held that it is within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. See In re Leshin, 125 USPQ 416. Fourier holograms are advantageous for use in display windows and windshields because of the small area needed to record the hologram compared to other types of holograms.

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Regarding claim 19, an adhesive 21 is disposed on the backside of the hologram (Fig. 1 and lines 20-28, col. 4) so that the hologram is secured to the installation surface.

3. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wreede(951).

Wreede(951) discloses a hologram structure 10 (Figs. 1-2) disposed on a vehicle windshield 20 (lines 24-27, col. 2) comprising reflection hologram areas 13 and transparent non-hologram areas 15. The whole structure constitutes a reflective fill factor modulated hologram where the fill factor is determined by the ratio of the hologram and non-hologram region (lines 61-66, col. 1). However, Wreede(951) does not specify the type of hologram being recorded on the substrate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a Fourier transform, far field hologram in Wreede's device, since it has been held that it is within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. See In re Leshin, 125 USPQ 416. Fourier holograms are advantageous for use in display windows and windshields because of the small area needed to record the hologram compared to other types of holograms.

4. Claims 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moss.

Regarding claims 20-21, Moss discloses a method for controlling the diffraction efficiency of a hologram having a graphic image encoded therein (and used in vehicle head-up display systems, lines 13-17, col. 1), wherein the hologram substrate comprises areas with high diffraction efficiency (corresponding to mask opaque areas 23a, 23b in Fig. 4) and areas of low diffraction efficiency (corresponding to transparent areas 21). See lines 58-63, col. 4. However,

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Moss does not specify that the method is specific for far field holograms. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Moss's method on a far field Fourier transform hologram, since it has been held that it is within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. See In re Leshin, 125 USPQ 416. Fourier holograms are advantageous for use in display windows and windshields because of the small area needed to record the hologram compared to other types of holograms.

Regarding claims 22, 24-26, Moss does not specify the recording method of the holographic pattern, e.g. whether the holograms are synthetically produced via the use of a computer or conventionally recorded via optical interference. It would have been obvious to one of ordinary skill in the art to use Moss's method on a conventional or a computer generated hologram, since Official Notice is taken of the equivalence of the above two types of recording methods and the selection of any of these known equivalents for fabricating a hologram used in conjunction with Moss's method would be within the level of ordinary skill in the art.

Regarding claim 23, the utilized hologram area is larger than the lower diffraction area (see Fig. 4).

Allowable Subject Matter

5. Claims 1-17, 27-30 are allowed.

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6. Claims 1-17, 27-30 are allowed over the prior art for at least the reason that the prior art fails to teach or reasonably suggest a viewing device, wherein the superimposed graphic image and the natural scene are viewable by the user in combination with substantial clarity, as set forth by the claimed combination.

Van der Gracht discloses a viewing device wherein a holographic image is superimposed on a viewed scene, with the recorded hologram being a multi-level phase hologram, thus producing no mirror image of the hologram image. However, Van der Gracht does not address the problem of the viewed scene being blurred and does not teach or suggest a method for viewing a combined scene which is substantially clear (where clarity is defined in the specification in conjunction with near-reading and far-reading tests, pp. 12-13).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Leo Boutsikaris whose telephone number is (703) 306-5730.

Leo Boutsikaris, Ph.D.

April 24, 2002



Cassandra Spyrou
Supervisory Patent Examiner
Technology Center 2800